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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,832	06/24/2003	Michael Werth	ATOCM-332	9062
23599	7590	03/07/2005	EXAMINER	
MILLEN, WHITE, ZELANO & BRANIGAN, P.C.			AUGHENBAUGH, WALTER	
2200 CLARENDON BLVD.			ART UNIT	
SUITE 1400			PAPER NUMBER	
ARLINGTON, VA 22201			1772	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/601,832

Applicant(s)

WERTH, MICHAEL

Examiner

Walter B Aughenbaugh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date June 24, 2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-7 and 9 in the reply filed on November 30, 2004 is acknowledged. The traversal is on the ground(s) that the groups are related as combination and subcombination in addition to product and process of use, all applicable criteria for distinctness must be satisfied for requirement for restriction to be proper and two-pronged test for distinctness in combination/subcombinations is not met. This is not found persuasive because the groups are not related as combination and subcombination because Group II is a method claim. An article cannot be a subcombination of a method; specifically in this application, a pipe is not a subcombination of "a method comprising transporting fluids".

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Objections***

2. Claim 9 is objected to because of the following informalities: should "a" be inserted between "comprises" and "wound"? Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Strassel et al.

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In regard to claims 1 and 2, Strassel et al. teach an offshore flexible pipe (col. 1, lines 15-21) comprising an unsealed flexible inner layer (flexible metal pipe, item 1, col. 8, lines 18-28 and Fig. 3) and outer sealing layers which comprise, in succession, an inner layer formed from at least one thermoplastic polymer (A) (the elastomer layer, item 8, where the elastomer is a thermoplastic polyurethane, note that claim 24 establishes that Strassel et al. characterize thermoplastic polyurethane as an elastomer, col. 16, lines 16-22 and 33-36, col. 8, lines 28-31 and Fig. 3), a polyolefin layer (the shrinkable polymer layer, item 9, col. 8, lines 31-34, col. 5, lines 12-23 and Fig. 3) and an outer layer formed from at least one thermoplastic polymer (B) that is outside of the polyolefin layer (the outer sheath, item 12, that is formed from a thermoplastic polymer, col. 8, lines 60-62 and Fig. 3).

In regard to claim 3, Strassel et al. teach that the polymers (A) and (B) are chosen from polyamides and polyurethanes since Strassel et al. teach that the inner layer formed from at least one thermoplastic polymer (A) is formed from thermoplastic polyurethane (col. 16, lines 16-22 and 33-36 and col. 8, lines 28-31) and that the outer sheath is formed from a thermoplastic polymer (col. 8, lines 60-62) and that polyamide-11 (PA-11) is a known sheath material for flexible pipes used in oil or gas extraction (col. 2, lines 13-16).

In regard to claim 9, Strassel et al. teach that the unsealed flexible inner layer comprises a wound metal strip (col. 8, lines 22-28).

5. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Strassel et al.

Strassel et al. teach an offshore flexible pipe (col. 1, lines 15-21) comprising an unsealed flexible inner layer (flexible metal pipe, item 1, col. 8, lines 18-28 and Fig. 3) and outer sealing layers which comprise, in succession, an inner layer formed from at least one thermoplastic

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polymer (A) (the shrinkable polymer layer, item 9, col. 8, lines 31-34, col. 5, lines 12-24 and Fig. 3) and a polyolefin layer (the outer sheath, item 12, that is formed from a thermoplastic polymer such as polyethylene since polyethylene is a known sheath material for use in oil extraction, col. 8, lines 60-62, col. 1, lines 40-48 and Fig. 3).

In regard to claim 9, Strassel et al. teach that the unsealed flexible inner layer comprises a wound metal strip (col. 8, lines 22-28).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strassel et al. in view of Fisher et al.

In regard to claims 2-4, Strassel et al. teach the pipe as discussed above in the second 35 U.S.C. 102 rejection of claim 1. Strassel et al. teach that polyamide is a suitable polymer for the shrinkable polymer layer, item 9 (col. 5, lines 12-24) and specifically teach polyamide-11 (PA-

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11) as the polyamide of the shrinkable polymer layer, item 9 (col. 13, lines 20-40). Strassel et al. also teach that PA-11 does not blister or inflate when in contact with live crude and that plasticized PA-11 is leak-proof when used as the sheath material for flexible metal pipes (col. 2, lines 13-16 and 28-31).

Strassel et al. fail to teach that the pipe described in this 35 U.S.C. 103 rejection comprises an outer layer formed from at least one thermoplastic polymer (B) that is outside of the polyolefin layer (the outer sheath, item 12) as claimed in claim 2 and, therefore, that the polymer (B) is any of the polymers claimed in claims 3 and 4.

Fisher et al., however, disclose a multilayer flexible offshore hose for underwater oil recovery and other offshore applications (col. 2, line 66-col. 3, line 9 and Fig. 1 and 5). Fisher et al. disclose that polyamide is a known suitable material for the outer layer of a multilayer offshore hose for underwater oil recovery (col. 2, lines 17-22, col. 3, lines 50-53, col. 6, lines 16-19 and col. 10, lines 12-20). Therefore, one of ordinary skill in the art would have recognized to have added a layer of PA-11 to the pipe of Strassel et al. outside of the outer sheath (item 12) of the pipe of Strassel et al. to prevent blistering and inflation of the pipe when the pipe is in contact with live crude and to render the pipe leak-proof as taught by Strassel et al. since polyamide is a known suitable material for the outer layer of a multilayer offshore hose for underwater oil recovery as taught by Fisher et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a layer of PA-11 to the pipe of Strassel et al. outside of the outer sheath (item 12) of the pipe of Strassel et al. to prevent blistering and inflation of the pipe when the pipe is in contact with live crude and to render the pipe leak-proof as taught by Strassel et al. since

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polyamide is a known suitable material for the outer layer of a multilayer offshore hose for underwater oil recovery as taught by Fisher et al.

In regard to claim 5, Strassel et al. and Fisher et al. teach the pipe as discussed above in regard to claim 4, and Strassel et al. teach that the shrinkable polymer layer formed from polymer (A), item 9, is formed from polyamide-11 since the shrinkable polymer layer, item 9, is formed from polyamide (col. 5, lines 12-24) and since Strassel et al. teaches that polyamide-11 is a known sheath material for use in oil or gas extraction (col. 2, lines 13-16). Strassel et al. teach that the shrinkable polymer layer, item 9, comprises a plasticizer (col. 5, lines 52-56).

Strassel et al. and Fisher et al. fail to teach that the outer layer formed from PA-11 contains a plasticizer.

Strassel et al., however, teach that plasticized PA-11 is leak-proof when used as the sheath material for flexible metal pipes (col. 2, lines 28-31). Therefore, one of ordinary skill in the art would have recognized to have added a plasticizer to the outer layer formed from PA-11 of the pipe taught by Strassel et al. and Fisher et al. in order to render the pipe leak-proof when used as the sheath material for flexible metal pipes for use in oil or gas extraction as taught by Strassel et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a plasticizer to the outer layer formed from PA-11 of the pipe taught by Strassel et al. and Fisher et al. in order to render the pipe leak-proof when used as the sheath material for flexible metal pipes for use in oil or gas extraction as taught by Strassel et al.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strassel et al. in view of Roeber et al.

Strassel et al. teach the pipe as discussed above in the two 35 U.S.C. 102 rejections of claim 1. Strassel et al. teach a thermoplastic polyolefin layer, item 8 (col. 8, lines 16-19, 33-34 and 41, col. 8, lines 28-31 and Fig. 3), and that polyamide is a suitable polymer for the shrinkable polymer layer, item 9 (col. 5, lines 12-24)

Strassel et al. fail to teach that the pipe comprises a tie layer in which the tie layer is a functionalized polyolefin carrying a carboxylic acid or carboxylic acid anhydride functional group.

Roeber et al., however, disclose a coupling (equivalently, tie) layer that couples a layer comprising a polyolefin molding composition layer to a layer comprising polyamide (col. 10, lines 41-54). Roeber et al. disclose that a suitable polymer for the coupling layer is a functionalized polyolefin carrying a carboxylic acid or carboxylic acid anhydride functional group (col. 5, lines 7-22 and 28-33) and that the coupling layer firmly bonds the polyolefin molding composition layer and the polyamide layer together (col. 10, line 54). Therefore, one of ordinary skill in the art would have recognized to have formed the pipe of Strassel et al. such that it has the tie layer of a functionalized polyolefin carrying a carboxylic acid or carboxylic acid anhydride functional group of Roeber et al. between the thermoplastic polyolefin layer, item 8, and polyamide layer, item 9, in order to firmly bond the polyolefin layer and polyamide layer together as taught by Roeber et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the pipe of Strassel et al. such that it has the tie layer of a functionalized polyolefin carrying a carboxylic acid or carboxylic acid anhydride functional group of Roeber et al. between the thermoplastic polyolefin layer, item 8, and polyamide layer,



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item 9, in order to firmly bond the polyolefin layer and polyamide layer together as taught by Roeber.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strassel et al. in view of Hill.

Strassel et al. teach the pipe as discussed above in the two 35 U.S.C. 102 rejections of claim 1. Strassel et al. fail to teach that the polyolefin is high density polyethylene (in the embodiment of Strassel et al. relied upon in the first 35 U.S.C. 102 rejection of claim 1 made of record above) and that the polyethylene is high density polyethylene (in the embodiment of Strassel et al. relied upon in the second 35 U.S.C. 102 rejection of claim 1 made of record above). Hill, however, discloses a multilayer pipe that is used to carry petroleum or oil (col. 1, lines 1-10) that consists of a layer of high density polyethylene that is directly bonded to a layer of polyamide (col. 5, lines 36-40). Therefore, one of ordinary skill in the art would have recognized to have used high density polyethylene as the polyolefin of the polyolefin layer of Strassel et al. since high density polyethylene is a known suitable material for use in a layer of a multilayer pipe that is used to carry petroleum or oil as taught by Hill.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used high density polyethylene as the polyolefin of the polyolefin layer of Strassel et al. since high density polyethylene is a known suitable material for use in a layer of a multilayer pipe that is used to carry petroleum or oil as taught by Hill.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 571-272-

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1488. The examiner can normally be reached on Monday-Thursday from 9:00am to 6:00pm and on alternate Fridays from 9:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Walter B. Aughenbaugh

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